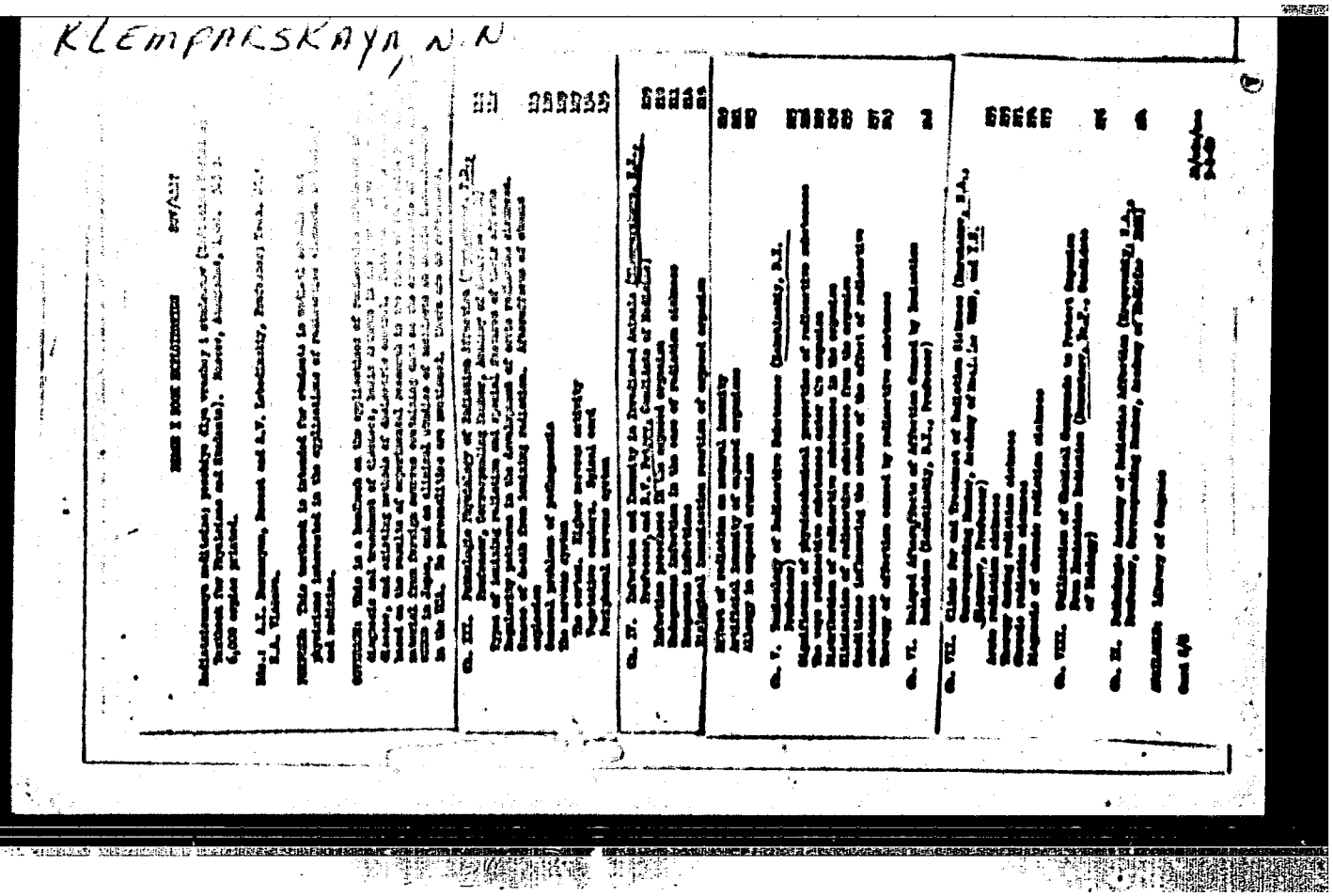
KLEMPARSKAYA, N.N.

Developmental mechanisms of endogenous infection in acute radiation sickness. Zhur.mikrobiol., epid.i immun. 30 no.11:72-77 N '59. (MIRA 13:3)

(RADIATION INJURY exper.)
(ESCHERICHIA COLI INFECTIONS exper.)



KLEMPARSKAYA, N.N.

37201

27 2405

S/560/61/000/011/007/012
E027/E635

AUTHORS: Zhukov-Verezhnikov, N.N., Mayskiy, I.N., Yazdovskiy, V.I., Pokhov, A.P., Gyurdzhian, A.A., Nefed'yeva, M.P., Kapichnikov, M.M., Podoplelov, I.I., Rybakov, N.I., Klemparskaya, N.N., Klimov, V.Yu., Novikov, S.N., Novikova, I.S., Petrov, N.V., Sushko, N.G., Ugryumov, Ye.P., Fedorova, G.I., Zakharov, A.F., Vinogradova, I.N., Chamova, K.G. and Buyko, Ye.A.

TITLE: The results of the first microbiological and cytological experiments in Space in Earth satellites

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no. 11. Moscow, 1961. Rezul'taty nauchnykh issledovaniy, provedennykh vo vremya poletov vtorogo i tret'yego kosmicheskikh korabley-sputnikov. 44 - 67

TEXT: The authors report the results of their investigations of biological objects which had been exposed to space conditions in satellite vehicles. The first part of the work was devoted to a study of the survival of cells of differing levels of organization under the influence of radiation and other

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E027/E635

The results of the ---

unfavourable factors, in comparison with control materials which remained in the laboratory over the same period. In experiments with bacteria 2ml. samples of suspensions of Escherichia coli, Aerobacter aerogenes, Staphylococcus aureus and Clostridium butyricum containing 500 million organisms or spores per ml. were sealed in ampoules, and exposed to a space flight of unstated duration; the number of viable individuals after the exposure did not differ significantly from the values for the control samples. A similar experiment was carried out with the T2 phage of E. coli and the 1321 phage of A. aerogenes, which were sent in the second satellite; again, no sigificant reduction in the titre of the phage preparations could be detected after return from space. Similar results were obtained with preparations of phage sent into space in the fourth and fifth satellites. Two bottles and six tubes of HeLa cells, some of which were saturated with oxygen, were exposed to space flight

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E027/E635

The results of the . ..

conditions, after it had first been shown that vibration and acceleration did not detach the cells from the glass. The cultures without oxygen appeared normal on return, whereas in those exposed to oxygen most of the cells had degenerated. Subculture showed that 50% of the cells, whether detached from or remaining on the glass, were dead; however, two tubes gave good growth, and the cells which grew up showed no abnormalities of morphology. No antigenic differences could be detected in the cells in anaphylaxis and desensitization experiments in guinea-pigs. In subsequent space flights fibroblast and human amnion cell cultures were studied, with similar results. Pieces of human and rabbit skin were also used. On August 12th 1960 two pieces of skin 2.5 x 3.5 cm. in size and 0.5 mm. thick were taken from a human donor, placed in Hanks solution and sent into space in the second satellite. On recovery they were regrafted on the original site in the donor and became firmly attached after seven days.

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The results of the ---

Similar results were obtained with two other donors. An apparatus was devised for making a subculture in space, in order to study the ability of bacteria to multiply under space conditions. In experiments with Clostridium butylicum no deviations from the controls were observed. The second part of the work was devoted to a study of possible genetic effects brought about by exposure to space conditions, mainly by looking for the production of auxotrophic mutants and lysogeny in bacteria. The former were detected by inoculation on a layer of minimal medium which was then covered with an overlay of the same medium in order to fix the colonies. When the latter had grown up their position was noted and an overlay of complete medium was then put on, and the colonies which then grew up as a result of the diffusion of essentialnutrients were selected as auxotrophic mutants. No such mutants could be found in suspensions of Escherichia coli recovered from the second satellite. The experiments on the induction of lysogenic bacteria were carried out on a strain of E. coli lysogenized by a λ phage which had been exposed to cosmic

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S/360/61/000/011/007/012
E027/E635

The results of the ---

radiation in the fifth satellite. Free phage particles were removed by adding phage antiserum; after the end of the latent period the action of the antiserum was cut short by diluting 1:100, streptomycin was added to inhibit the host organisms, and the mixture was plated out on the indicator strain in order to count the phage particles produced. The results obtained, considered in comparison with control experiments, provided no evidence of induction by cosmic radiation during a space flight of ninety minutes. No difference was observed in the plaque morphology. No changes could be detected in the chemical and physical properties of calf thymus deoxyribonucleic acid recovered after a space flight. The results as a whole indicate that no damage was suffered by isolated cells during a brief exposure to space conditions. There are 6 figures and 10 tables.

SUBMITTED: May 23, 1961

Card 5/5

30363
S/205/61/001/004/023/032
D298/D303

27.2400

AUTHORS: Klemparskaya, N. N., and Petrov, R. V.

TITLE: The significance of immunological research in studying the pathogenesis of acute radiation sickness

PERIODICAL: Radiobiologiya, v. 1, no. 4, 1961, 583-590

TEXT: By reference to recent research works, the authors show how immunological studies can assist in clarifying the theory of the pathogenesis of radiation sickness. Of great significance are immunological methods of studying processes such as the denaturation changes in disintegrating tissues, the resorption of antigen tissue substances into the blood and the physiological response to them. New research, the authors point out, has shed new light on the autoimmune process and its role at various stages and with various forms of radiation sickness. Some authors believe that the development of autosensitization is, by and large, impossible due to the general inhibition of antibody genesis after irradiation. The authors point out that this opinion is probably incorrect

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The significance of...

and derives from too short a period of observation in experiments. With early death of the animal, the antibody content of the blood is probably still too small to be detected. In no work did the authors find any case where antibodies were not detected in immunized rabbits after fairly protracted irradiation of the animals. As for the question of prolonged inhibition of antibody genesis, the facts are probably distorted by insufficiently sensitive means of recording antibody synthesis. Modern research indicates that the inhibition of antibody genesis after irradiation is by no means absolute. Modern research also shows that anto-sensitization phenomena are important for understanding, not all types of radiation death, all living creatures or all primary cell reactions, but only for explaining the mechanism of the development of the pathological reactions in warm-blooded animals as a result of the primary action of definite doses of radiation on the cells, i.e., for understanding the pathogenesis of acute and subacute radiation sickness. Morphological and biochemical research has revealed the destruction of cells in various organs and tissues in the first few hours after irradiation.

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The significance of...

This is accompanied by changes in the tissues' antigenic properties and by the circulation of tissue proteins in the blood. The tissue-destruction products which circulate in the blood are inevitably bio-active. Immunological studies have revealed that during the latent period of radiation sickness the body becomes increasingly sensitive to auto-tissue substances and begins to develop auto-antibodies and cyto-toxins. In 1960, N. N. Klemparskaya and M. V. Rayeva used a new method, devised by Ouanier (Uan'ye) (1955), for detecting small amounts of anti-bodies in cases of medicinal allergy, (Ref. 10: Byull. eksperim. biol. i med., No 5, 77, 1961). The authors describe this method as applied to the detection of auto-tissue substances and give an account of the experiments which have been made to test its accuracy. During the clinically marked period of radiation sickness, all autosensitization phenomena increase in intensity. The observations of various researchers on this aspect of the problem are described. These observations show that during acute radiation sickness, all links in the change of the autoimmune process are detected: destruction of the tissues and change

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The significance of...

in their antigenic properties, the circulation of tissue antigens in the bloodstream, the development of a state of autosensitization and the appearance of auto-antibodies. A study of autosensitization is also important for understanding the features of the physiological response to bacterial infection and to antigenic stimulus. Specifically, it might explain the hemorrhagic nature of foci of inflammation. There are indications that, with the body's heightened sensitivity to tissue substances, the local formation of tissue decay products is the decisive factor and leads to appearance of the hemorrhagic nature of the inflammation. Consequently, apart from the injurious effects of bacterial toxins and proteins, the infectious process may directly affect the state of autosensitization by activating the cellular decay process in the foci of inflammation. As for the significance of autosensitization in the physiological response to heterogenic antigen stimulation, it is demonstrated that radiation has an injurious effect on the function of the cells which produce antibodies. A number of experimental works show that, apart from the direct injurious action of radiation on the antibody genesis function of cells, there is a further mechanism which inhibits the

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The significance of...

immune response to antigens. Underlying this mechanism is the process of autosensitization to the body's own tissue products. Other works show that the physiological response to any antigen induces inhibition of antibody genesis to subsequent antigen stimuli. Instances where this phenomenon has been noted are cited. There are 50 references: 35 Soviet-bloc and 15 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: J. Sterzl, Mechanisms of antibody formation. Prague, p. 107, 1960; H. F. Wood, S. Anderle, C. W. Hammond, C. P. Miller, J. Exptl. Med., 111, 601, 1960; T. Makinodan, Federat. proc., 19, 586, 1960; P. Abramoof, J. Immunol., 85, 648, 1960.

SUBMITTED: March 14, 1961

Card 5/5

4

KLEMPARSKAYA, N.N.; RAYEVA, N.V. (Moskva)

Intradermal distilled water tests in treated and untreated dogs with radiation sickness. Pat. fiziol. i eksp. terap. 5 no.2:62 Mr-Ap '61. (MIRA 14:5)

(RADIATION SICKNESS)
(WATER, DISTILLED—PHYSIOLOGICAL EFFECT)

KLEMPARSKAYA, N.N.

Mechanism of the protective effect of organ screening in total-body irradiation of rats. Med. rad. 6 no.2:77-78 '61.
(MIRA 14:3)

(RADIATION PROTECTION)

KLEMPARSKAYA, N.N.; RAYEVA, N.V.

Antibiotic sensitivity in strains of coli bacilli isolated at various stages of acute radiation sickness in animals treated and not treated with antibiotics. Antibiotiki 6 no.6:534-541 Je '61. (MIRA 15:1)
(RADIATION SICKNESS) (ANTIBIOTICS)
(ESCHERICHIA COLI)

KLEMPARSKAYA, N.N.; RAYEVA, N.V.

Higne's method in the study of autosensitization in radiation sickness. Biul. eksp. biol.i med. 51 no.5:77-81 My '61. (MIRA 14:8)

1. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Zhukovym-Vereshnikovym.
(RADIATION SICKNESS) (ALLERGY)

BUGROVA, V.I., kand. med. nauk; VINOGRADOVA, I.N., kand.biol. nauk; D'YAKOV, S.I., kand. med. nauk; ZHDANOV, V.M., prof.; ZHUKOV-VEREZHNIKOV, N.N., prof.; ZEMTSOVA, O.M., kand. med. nauk; IMSHENETSKIY, A.A., prof.; KALINA, G.P., prof.; KAULEN, D.R., kand. med. nauk; KOVALEVA, A.I., doktor med. nauk; KRASIL'NIKOV, N.A., prof.; KUDLAY, D.G., doktor biol. nauk; LEBEDEVA, M.N., prof.; PERETS, L.G., prof. [deceased]; PEKHOV, A.P., doktor biol. nauk; PLANEL'YES, Kh.Kh., prof.; POGLAZOVA, M.N., kand. biol. nauk; PROZOROV, A.A.; SINITSKIY, A.A., prof.; FEDOROV, M.V., prof. [deceased]; SHANINA-VAGINA, V.I., kand.biol. nauk; VYGODCHIKOV, G.V., prof., zamestitel' otv. red.; ADO, A.D., prof., red.; BAROYAN, O.A., prof., red.; BILIBIN, A.F., prof., red.; BOLDYREV, T.Ye., prof., red.; VASHKOV, V.I., doktor med. nauk, red.; VYAZOV, O.Ye., doktor med. nauk, red.; GAUZE, G.F., prof., red.; GOSTEV, V.S., prof., red.; GORIZONTOV, P.D., prof., red.; GRINBAUM, F.T., prof., red. [deceased]; GROMASHEVSKIY, L.V., prof., red.; YELKIN, I.I., prof., red.; ZASUKHIN, L.N., doktor biol. nauk, red.; ZDRODOVSKIY, P.F., prof., red.; KAPICHNIKOV, M.M., kand. med. nauk, red.; KLEMPARSKAYA, N.N., prof., red.; KOSYAKOV, P.N., prof., red.; LOZOVSKAYA, Ye.S., kand. med. nauk, red.; MAYSKIY, I.N., prof., red.; MUROMTSEV, S.N., prof., red. [deceased];

(Continued on next card)

1962 book

BUGROVA, V.I.---(continued) Card 2.
NIKITIN, M.Ya., red.; NIKOLAYEVA, T.A., red.; PAVLOVSKIY, Ye.N., akademik, red.; PASTUKHOV, A.P., kand. med. nauk, red.; PETRISHCHEVA, P.A., prof., red.; POKROVSKAYA, M.P., prof., red.; POPOV, I.S., kand. med. nauk, red.; ROGOZIN, I.I., prof. red.; RUDNEV, G.P., prof., red.; SERGIYEV, P.G., prof., red.; SKRYABIN, K.I., akad., red.; SOKOLOV, M.I., prof. red.; SOLOV'YEV, V.D., prof., red.; TRIKULEV, G.P., dotsent, red.; CHUMAKOV, M.P., prof., red.; SHATROV, I.I., prof., red.; TIMAKOV, V.D., prof., red.toma; TROITSKIY, V.L., prof., red. toma; PETROVA, N.K., tekhn.red.;

[Multivolume manual on the microbiology, clinical aspects, and epidemiology of infectious diseases] Mnogotomnoe rukovodstvo po mikrobiologii klinike i epidemiologii infektsionnykh boleznei. Otv. red. N.N.Zhukov-Vereshnikov. Moskva, Medgiz. Vol.1. [General microbiology] Obshchaia mikrobiologiia. Otv. red. N.N.Zhukov-Vereshnikov. 1962. 730 p. (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Zhdanov, Zhukov-Vereshnikov, Vygodchikov, Bilibin, Vashkov, Gromashevskiy, Zdrodovskiy, Rudnev, Sergiyev, Chumakov, Timakov, Troitskiy).

(Continued on next card)

BUGROVA, V.I.---(continued) Card 3.

2. Chlen-korrespondent Akademii nauk SSSR (for Imshenetskiy, Krasil'nikov). 3. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Planel'yes, Baroyan, Boldyrev, Gorizontov, Petrishcheva, Rogozin). 4. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Muromtsev).

(MICROBIOLOGY)

S/205/62/002/001/005/010
D268/D302

27.2400

AUTHORS: Klemparskaya, N.N., and Rayeva, N.V.

TITLE: The effect of preliminary immunization with live and dead cells of "Escherichia coli" on animal radioresistance

PERIODICAL: Radiobiologiya, no. 1, v. 2, 1962, 134 - 141

TEXT: Over a number of years experiments have been made to determine the effect of immunization in mouse, rabbit, guinea-pig, and dog by innoculation with "Escherichia coli" and "Salmonella paratyphi" ser. Breslau (heat killed), BCG vaccine, live cultures of "E. coli", sterile cream, and milk before irradiation which was as follows: 1) Mouse - x-ray irradiation at 500 r; 2) rabbit - irradiation in standard conditions, and 3) guinea-pig and dog - irradiation with gamma-rays at a dose rate of 324 r/min. Survival in mouse (770 animals tested) was higher in inoculated than in non-inoculated, except with enteral inoculation which increased radiosensitivity, and large doses of sterile cream. Development time for

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S/205/62/002/001/005/010
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radioresistance varied, there being an increase in survival at 15 min. or 7 days with tetravaccine from gram-negative bacteria, but only at 2 weeks with BCG. There was 86 % survival in rabbit (22 animals tested) with live culture of "E. coli" inoculated intradermally 30 days before irradiation with x-rays (dose 800 r) as against 40 % of 20 non-inoculated. In inoculated animals the average leukocyte count was 3.4 thousand/mm^3 at the 9th day as against 1.8 thousand/mm^3 in non-inoculated. Increase in radio-sensitivity in guinea pib exposed to Co^{60} gamma-radiation at 250 r varied according to the inoculum given 30 days previously, best results (5 survivals out of 8) being obtained with combined "S. paratyphi" ser. Breslau + "E. coli". The clinical character of the reaction to inoculation and the duration of radiation sickness were studied in 89 dogs (male and female), given a special diet to reduce allergic reaction. Of the 42 used for the control experiment all died. Of the remaining 47, 18 were inoculated with live "E. coli" at a single site with doses of 500 and 1,000 million microbial bodies, once and repeatedly. There were 2 survivals without further treatment. 11 further dogs were given similar inoculum at 6 sites, 100 - 200 micro-

bial bodies being inoculated at each (once and twice). There were 2 survivals without further treatment. Increase in life duration and survival was noted only at specific doses and mainly following immunization with live "E. coli". In the surviving inoculated dogs radiation sickness was symptomless, the only changes being developed of leukopenia and increased erythrocyte sedimentation rate 15 - 25 days after irradiation. In other inoculated dogs which died, though life duration was increased, the course of the desease differed from that in non-inoculated, typical symptoms being less frequent and appearing later. To obtain data on the mechanism of the action of preliminary immunization on radioresistance the number of antibodies to the microbe inoculated and to the tissue antigens was observed. It was concluded that the formation of antimicrobial immunity was not involved, but that the formation of antibodies against tissue breakdown products might be involved. There are 6 figures and 10 references: 6 Soviet-bloc and 4 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: F. Smith, W. Smith, L. Gonshery, M. Grenau, Proc. Soc. Expti. Biol. and Med. 87, 1, 23, 1954; M. Rowen, W. Moss, M. Samter, Proc.

S/205/62/002/001/005/010
D268/D302

The effect of preliminary ...

Soc. Exptl. Bio. and Med., 83, 4, 548, 1955; D. Ainsworth, H. Chase Proc. Soc. Exptl. Biol. and Med., 102, 2, 483, 1959; P. Abramoff, J. Immunol., 85, 46, 648, 1960.

SUBMITTED: May 22, 1961

Card 4/4

40481

S/205/62/002/002/014/015
1020/1215

AUTHORS: Klemparskaya, N. N. and Shal'nova, G. A.

TITLE: The stimulation of immunogenesis in irradiated animals by the combined administration of certain bacterial antigens

PERIODICAL: Radiobiologiya, v. 2, no. 2, 1962, 332

TEXT: The following gram-negative antigens were administered together with БЦЖ (BCG) vaccine for stimulation of immunogenesis in mice, in which immunogenesis was repressed following whole-body irradiation of 300 r: B. coli (220 mice), monovaccine of S. breslau (439 mice), and tetravaccine against typhoid fever, paratyphoid B, S. flexneri, and S. sonne (696 mice). Inoculation was performed 24 hours after irradiation. The animals were divided into 4 groups, each containing both irradiated and non-irradiated animals. The first received only antigen, the second—antigen + BCG vaccine, the third—only the BCG vaccine, and the fourth (control)—physiological salt solution. In all the experiments in which the antigen was combined with the BCG vaccine there was a twofold increase in survival and a two to threefold increase in agglutinin titre. Similar results were obtained with tetanus anatoxin in combination with the BCG vaccine.

SUBMITTED: November 29, 1961.

Card 1/1

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; FEDOROV, A.P.; GYURDZIAN, A.A.; NETED'YEVA, N.P.; KAPICHNIKOV, M.M.; PODOLSKOV, I.I.; RYBAKOV, N.I.; KLEMPARSKAYA, N.N.; KLIKOV, V.Yu.; NOVIKOV, S.N.; NOVIKOVA, I.S.; PETROV, R.V.; SUSHKO, N.G.; UGRYUMOV, Ye.P.; FEDOROVA, O.I.; ZAKHAROV, A.F.; VINOGRADOVA, I.N.; CHAYKOVA, K.G.; BUYKO, Ye.A.

Results of first microbiological and cytological experiments in space on artificial satellites. Isk.sput.Zem. no.11:42-67 '61. (MIRA 15:1)

(Space microbiology) (Artificial satellites)

KLEMPARSKAYA, N.N.; SHITNEVA, M.F.; KALYAYEVA, T.V.; FEDOROVA, T.A.

Some characteristics of reactions of the organism to microbial and homologous cell antigens. Zhur.mikrobiol., epid.i immun. 33 no.8: 89-95 Ag '62. (MIRA 15:10)

(ANTIGENS AND ANTIBODIES)

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEKHOV, A.P.; RYBAKOV, M.I.; KLEMPARSKAYA, N.N.; GYURDZHIAN, A.A.; TRIBULEV, G.P.; NEFED'YEVA, N.P.; KAPICHNIKOV, M.M.; PODOPLELOV, I.I.; ANTIPOV, V.V.; NOVIKOVA, I.S.; KOP'YEV, V.Ya.

Problems of space microbiology and cytology. Probl.kosm.biol. 1:118-136 '62. (MIRA 15:12)
(SPACE MICROBIOLOGY) (CYTOLOGY)

KLEMPARSKAYA, N.N.; RAYEVA, N.V.

Effect of preliminary immunization with living and dead cells of Escherichia coli on the radioresistance of animals. Radiobiologiia 2 no.1:134-141 Ja '62 (MIRA 18:1)

41983
S/219/62/054/009/004/004
I015/I215

27.1220

27 3330 (2320 only)

AUTHORS: Klemparskaya, N.N. and Shal'nova, G.A.

TITLE: The stimulating effect of a combined immunisation of BCG vaccine and other vaccines on immunogenesis in irradiated and non-irradiated mice

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny, v. 54, no. 9, 1962, 78-81

TEXT: There is no report to be found in medical literature on the use of BCG vaccine as an adjuvant to other vaccines. Experiments were carried out on 1474 albino female mice weighing 18-20g, inoculated with a living B.coli culture injected s.c. into 220 mice (25 or 100 millions of microorganisms); a monovaccine of B. paratyphi Breslau No. 2503 killed at 56-58°C, injected i.c. into

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I015/I215

The stimulating effect....

439 mice (200 millions); a tetravaccine (from the Ufa Institute of Vaccines and Sera) against typhoid, B. paratyphi B, S. flexneri and S. sonnei, injected s.c. at a dose of 0.25 ml into 760 mice. The dry BCG vaccine was obtained from the Institute of Epidemiology and Microbiology imeni N.F. Gamaley AMS USSR. It was added (1mg/0.1 ml physiol. solution) to the vaccines immediately before the injection, in its native form or after autoclaving. A whole body irradiation was carried out on groups of 12 mice with a 300 r dose at a dose rate of 20-22r/min. Immunity was tested by inoculation with living bacterial cultures. It was found that the addition of BCG vaccine as an adjuvant to other vaccines increased markedly the immunity of

Card 2/3

PHASE I BOOK EXPLOITATION SOV/6497

Klemparskaya, N. N., N. V. Rayeva, and V. F. Sosova

Antibakterial'nyy immunitet i radiorezistentnost' (Antibacterial Immunity and Radioresistance) [Moscow], Medgiz, 1963. 119 p. 3000 copies printed.

Ed.: S. P. Landau-Tylkina; Tech. Ed.: N. A. Bukovskaya.

PURPOSE: This book is intended for practicing physicians, radiologists, immunologists and research workers in related fields.

COVERAGE: The physiological significance of acquired immunity and some aspects of vaccination effects and their significance in increasing radiation tolerance, and irradiation of immunized animals and inoculation effects in vivo after radiation exposure are discussed. The following personalities are mentioned: Professor P. D. Gorizontov, T. V. Kalyayeva, M. F. Sbitneva, I. N. Usacheva, G. A. Shal'nova, and O. V. Smirnova. There are 92 Soviet and 60 non-Soviet references.

Card 1/2

KLEMPARSKAYA, N.N.

Effect of space flight conditions on dissociation of intestinal bacteria. Isk.sput.Zem. no.15:104-108 '63. (MIRA 16:4)
(Space microbiology)

AID Nr. 996-3 24 June

EFFECT OF SENSITIZATION ON THE REACTIVITY OF AN IRRADIATED ORGANISM (USSR)

Klemparskaya, N. N., and V. V. Shikhodyrov. Radiobiologiya, v. 3, no. 2, 1963, 230-239. S/205/63/003/002/013/024

Suspensions of homologous tissues were injected into healthy animals to reproduce pathological symptoms characteristic of radiation sickness without subjecting them to irradiation. Preparations of intestinal mucosa, and of spleen, liver, and kidney tissues were used for single injections in combination with a sterilized BCG suspension (stimulant). Minimum immunising doses of microbic antigens were given to the test animals. Experiments were conducted with 15 rabbits weighing 2.5 to 3.0 kg, 51 guinea pigs weighing 250 to 300 g, and 343 white mice weighing 10 to 20 g. Pathological symptoms caused by autosensitization were manifested within the first 2 to 3 weeks (3 to 5% loss of weight and leucocytosis). No other pathological symptoms

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AID Nr. 996-3 24 June

EFFECT OF SENSITIZATION ON THE REACTIVITY (Cont'd) S/205/63/003/002/013/024

were observed in rabbits vaccinated with a BCG suspension after sensitization. In non-vaccinated rabbits additional loss of weight (16 to 25%), paralysis or lesion of the hind legs, leucocytosis (25,000 to 30,000 leucocytes per 1 mm^3 blood) and pulmonary hemorrhage were observed 41 days after sensitization. The rate of formation of antibodies depends on the time interval between autosensitization and vaccination. The lowest values were obtained when the rabbits were vaccinated on the 8th or 21st day after sensitization. The pathological symptoms can be alleviated by injection of microbic antigens within a v eek after sensitization. In guinea pigs, in addition to leucocytosis, a significant drop in the leucocyte count (to 1800 to 2000 cells per 1 mm^3 blood) was also observed. The autopsy of the animals revealed intestinal and pulmonary hemorrhages. None of the vaccinated guinea pigs expired during the observation period and the number of cases of leucopenia was appreciably reduced when the animals were vaccinated either before, or 7 days after sensitization.

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AID Nr. 996-3 24 June

EFFECT OF SENSITIZATION (Cont.) S/205/63/003/002/013/024

But when vaccinated 35 days after sensitization, 50% of the animals succumbed within 7 to 10 days. A more detailed study of histological changes in the tissues of a sensitized organism, the significance of age and body weight, the role of the "stimulant" (BCG cells), and the method of administration of the tissue suspensions was conducted with mice. Pathological symptoms (death within 8 to 10 days, weight loss, development of leucopenia, and autoinfection) occurred under the following experimental conditions: intracutaneous injection, body weight 15 to 17 g, dose of tissue suspension 0.5 ml. The number of the symptoms was reduced by the addition of a sterilized BCG suspension. Intraperitoneal injection of large doses (2 ml) of tissue suspension resulted in the death of 50% of the animals during the first 48 hrs. Histological studies of the tissue and organs 8 to 10 days after sensitization showed a significant inhibition of lymphogenesis, protein dystrophy of the parenchymatous organs, formation of a large number of plasma cells, and acinous hemoptysis. A proliferation of

Card 3/3

AID Nr. 996-3 24 June

EFFECT OF SENSITIZATION OF THE REACTIVITY [Cont'd] S/205/63/003/002/013/024

Kupffer's cells in the liver and erythrophagia in the lymph nodes were also observed. Innoculating animals with B. breslaviensis 7 days after sensitization, and with three doses of the live culture two weeks later, significantly reduced the survival rate. Thus, autosensitization inhibits formation of antibodies and lowers the resistance to infection with live pathogenic microorganisms. When innoculated with the microbic vaccine before autosensitization, no pathological symptoms were produced. The data obtained indicate the significance of autosensitization in radiation sickness.

[SCM]

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L 13811-63 EWT(1)/EWT(m)/EDS/ES(b) AMD/AFTC/ASD AR/K
ACCESSION NR: AP3003932 S/0205/63/003/004/0557/0562

57

AUTHOR: Klemparskaya, N. N.; Rayeva, N. V.; Usacheva, I. N. 19

TITLE: Increase of radioresistance by preliminary immunization with BCG vaccine

SOURCE: Radiobiologiya, v. 3, no. 4, 1963, 557-562

TOPIC TAGS: BCG vaccine, immunization

ABSTRACT: A study was made of the effect of vaccination with BCG before irradiation with x- or γ-rays on the clinical aspects of radiation sickness and on the mortality of irradiated mice, rats, rabbits, and dogs. The protective effect of immunization was most pronounced in mice. The beneficial effect of vaccination on large animals depended on the time interval between vaccination and irradiation and on combining immunization with antibiotic treatment of the animals after irradiation. Male mice weighing 20—24 g were subjected to total-body x-irradiation from an RUM-3 apparatus with a dose of 500 r at 20 to 21 r/min ($LD_{75/30}$) (180 kv; 15 mamp; filter, 1 mm Al and 0.5 mm Cu; distance, 50 cm); rabbits were irradiated with 800 r at 34 to 36 r/min (distance, 60 cm; all other conditions, identical); guinea pigs and dogs were irradiated with γ-rays (Co^{60}) from an EGO-2 apparatus

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at 293 to 300 r/min (observation period, 30 days). The mortality after irradiation and the clinical aspects of radiation sickness were used as criteria for radioresistance. The highest beneficial effect was observed in mice when the time interval between vaccination and irradiation was 13 to 14 days (survival rate of experimental mice, 72.6%; of controls, 34.6%). The experiments with guinea pigs did not give any definite results. A slightly milder course of radiation sickness was observed in vaccinated rabbits. No marked radioprotective effect was noted in white rats; the survival rates and life spans of vaccination of dogs with BCG varied with respect to dose and mode of administration. Tests were made with subcutaneous injections of 0.05, 2.5, and 10 mg of live vaccine and 0.5 to 1.0 mg of vaccine killed by autoclaving (in combination with a warmed vaccine from B. Breslaviensis). Large doses were used when given per os: a single dose of 150 mg or two doses of 150 mg with a 14-day interval between. The intensity and duration of the local reaction depended on the size of the BCG dose: with small doses an infiltrate appeared; hemorrhaging appeared with a dose of 10 mg. The administration of BCG combined with B. Breslaviensis vaccine resulted in a milder local reaction. An analysis of the hematological data showed that the dynamics of changes in the hematopoietic system and in peripheral blood were identical with those in the controls. Orig. art. has: 3 tables.

KLEMPARSKAYA, N.N.; RAYEVA, N.V.

Mechanism of the therapeutic action of novocaine in acute radiation sickness. Radiobiologiia 3 no.5:778-779 '63. (MIRA 17:4)

L'VITSYNA, G.M. (Moskva); KLEMPARSKAYA, N.N., prof., nauchnyy rukovoditel' raboty

Agglutination reaction with blood lysate. Lab. delo no. 12:736-737 '64. (MIRA 18:1)

CHASOVNIKOV, A.A.; KLEMPARSKAYA, N.

Review, criticism and bibliography. Zhur. mikrobiol., epid. i immun. 40 no.6:145-155 Je '63. (MIRA 17:6)

KLEMPARSKAYA, N.N.

Effect of novocaine on immunogenesis. Biul. eksp. biol. i med. 55 /1.e.56/ no.10:77-81 '63 (MIRA 17:8)

1. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.

S/0000/64/000/000/0089/0095

ACCESSION NR: AT4044489

AUTHOR: Klemparskaya, N.N., Shal'nova, G.A.

TITLE: Recovery of immunogenesis in irradiated animals

SOURCE: Vosstanovitel'ny*ye protsessy* pri radiatsionny*kh porazheniyakh (Recovery from radiation injuries); sbornik statey. Moscow, Atomizdat, 1964, 89-95

TOPIC TAGS: radiation sickness, immunity, immune response, antibody, immunogenesis, vaccine

ABSTRACT: The immune response is severely damaged by radiation, contributing to the development of endogenous infections during radiation sickness and having a marked effect on survival. Yet, very little work has been done on the recovery of the immune response in animals surviving the acute phase of radiation poisoning. In the present paper, the authors discuss some of these questions on the basis of a review of the literature and their own published work. Emphasis is given to the details of the recovery process and to methods of evaluating the immune response following radiation, as well as to ways of stimulating immunogenesis. It is pointed out that a dose of 300 r, which kills only 5-10% of mice in 30 days, produces disturbances in immunogenesis which already become

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ACCESSION NR: AP4038940 S/0241/64/000/005/0029/0034

AUTHOR: Shikhody*rov, V. V.; Klemparskaya, N. N.

TITLE: Reaction of spleen, lymph nodes and loose connective tissue to antigen stimulation in irradiated animals

SOURCE: Meditsinskaya radiologiya, no. 5, 1964, 29-34

TOPIC TAGS: antibody producing organ, spleen, lymph node, loose connective tissue, cellular change, Salmonella breslau, vaccine induced cellular change, radiation induced cellular change, acute radiation sickness, antigen stimulation

ABSTRACT: Cellular changes in the antibody-producing organs were studied in 3 test series of white mice: immunized, irradiated, and immunized and irradiated animals. The animals received warmed paratyphus breslau vaccine; immunization was determined 1 month later with a live culture. The LD_{50} for immunized and non-immunized mice was found at 66 million and 42,000 microbial bodies respectively. A 500 r dose was administered for irradiation. The animals' tissues were studied 2, 6, 24 hours and 2, 3, 5, 7, 10, 15 and 20 days after the respective treatment. In the first series vaccine introduction caused structural changes in the above

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ACCESSION NR: AP4038940

tissues. After 5-10 days spleen and lymph nodes showed a larger number of dividing lymphocyte and plasma cells, hemocytoblasts and megakanocytes, higher RNA content in the protoplasm of the reticular cells. In the connective tissue an increased number of new fibroblasts and macrophages with RNA accumulation in the protoplasm was seen. In the second series, irradiation caused spleen and lymph node changes leading to degeneration of the lymphocytes, decrease of macrophages, dystrophy of reticular cells and polyemia of the organs. The loose connective tissue also showed dystrophic changes, with a decreased number of cambial cells in the young fibroblasts and in macrophages, and a simultaneous increase of mature and late forms of fibroblasts and disintegrating cells. Mice irradiated 20 days after immunization showed less pronounced morphologic changes of these organs and faster return to normal structure. The loose connective tissue showed more active macrophage reaction, less cell disintegration at the climax of the radiation sickness and earlier restoration. The difference was most pronounced in the macrophages which decreased by 5% on the 3-5th day in the immunized animals and started to increase with the 7th day, while the non-immunized mice reacted with almost complete disintegration of these cells, restoration starting only with the 10-15th day. Orig. art. has: 7 figures.

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ACCESSION NR: AP4038940

ASSOCIATION: None

SUBMITTED: 22Feb63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: LS NO REF SOV: 016 OTHER: 003

Card 3/3

L 15016-65 EWD(j)/EWT(m) Pb-4/Pa-4 [illegible]

ACCESSION NR: AP4042744 S/0241/64/009/007/0037/0045 B

AUTHOR: Rayeva, N. V. (Moscow); Klemparskaya, N. N. (Moscow); Usacheva, I. N. (Moscow) 19

TITLE: Clinical features of acute radiation sickness in monkeys vaccinated with B. C. G. vaccine before irradiation

SOURCE: Meditsinskaya radiologiya, v. 9, no. 7, 1964, 37-45

TOPIC TAGS: monkey, radiation sickness, B. C. G. vaccine, antiradiation action, antibiotic therapy, chemotherapy

ABSTRACT: Three groups of monkeys were investigated to determine the radioprotective action of live B. C. G. vaccine administered before irradiation. All three groups of animals were gamma-irradiated [illegible], 336 to 313.7 r/min) with single [illegible] doses to induce acute radiation sickness. The first group [illegible] monkeys) was not vaccinated and served as a control, the second group [illegible] monkeys) was vaccinated subcutaneously with live B. C. G. vaccine (3 animals received a .05 mg dose and 3 animals received a 5 mg dose) 21 or 34 days before irradiation, and the third group (5 monkeys) was not vaccinated but received orally an antibiotic complex (oxytetracycline,

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L 15016-65
ACCESSION NR: AP4042744

phenoxymethylpenicillin, and streptomycin) of 100,000 units daily after irradiation. Also, half of the second group received the same antibiotic therapy. In addition, all animals in the second and third groups received vitamins C (0.6 g), B_1 (10 mg), and B_2 (0.5 mg) daily. The development of radiation sickness clinical symptoms was observed in all animals up to 60 days after irradiation. Radioprotective action of live B. C. G. vaccine and chemotherapy was determined by frequency of clinical symptoms, blood counts, and microbiological investigations. Findings show that vaccinations with live B. C. G. vaccine administered 34 days before irradiation prolong life expectancy and moderate the symptoms (particularly hemorrhagic diathesis) in acute radiation sickness. B. C. G. vaccinations administered 21 days before irradiation and followed by chemotherapy ensure high survivability, completely prevent the development of radiation sickness symptoms including hemorrhagic diathesis, and moderate hemopoietic system injuries. Chemotherapy (oral) by itself ensures high survivability of animals compared to vaccinated animals without chemotherapy and control animals. However, it does not prevent the appearance of acute radiation sickness symptoms and, most important, it does not offer protection against serious radiation

Card 2/3

L 15016-65

ACCESSION NR: AP4042744

aftereffects and reduced resistance during the late period. No evidence of B. C. G. bacteria spreading or increased virulence was found in the vaccinated animals. Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: None

SUBMITTED: 04Feb63 ENCL: 00 SUB CODE: LS

NR REF SOV: 009 OTHER: 007

Card 3/3

KLEMPARSKAYA, N.N.

Ways of suppressing the autoimmune reaction of the irradiated organism. Med.rad. 9 no.9:54-60 S '64.
(MIRA 18:4)

RAYEVA, N.V.; KLEMPARSKAYA, N.N. (Moskva)

Mechanism of increased radioresistance in using milk as prophylactic against acute radiation sickness. Biul. eksp. biol. i med. 58 no.7: 44-48 Jl '64. (MIRA 18:2)

1. Submitted March 18, 1963.

L 28891-66 EWT(1)/T JK

ACC NR: AP6018228 (N) SOURCE CODE: UR/0391/66/000/006/0054/0056

32
B

AUTHOR: Klemparskaya, N. N. (Moscow)

ORG: none

TITLE: The effect of sound on antibody formation

SOURCE: Gigiyena truda i professional'nyye zabolevaniya, no. 6, 1966, 54-56

TOPIC TAGS: animal physiology, acoustic biologic effect, bioastronautics, biologic vibration effect, antibody formation, antibody, immunology

ABSTRACT: The effect of sound on the immunological reactivity of the organism was studied in chinchilla rabbits weighing 2.7—3 kg. Thermally killed Salmonella breslau vaccine was used. One group of rabbits received 500 million microbes subcutaneously, the other received 25 million microbes intravenously. The dependence of the effect of sound on dose and rate of antigen absorption could thus be studied. Both groups of rabbits were exposed to a noise stimulus (58—62 db) for 24 hr daily for 3 to 4 weeks. Exposure to sound considerably enhanced the immunological reaction of the organism (antibody formation), especially in the first 7—14 days after inoculation. However, the results of revaccination indicate that this enhancement is so drastic as to exhaust the organism's ability to react normally to a second (booster) dose of the same vaccine thereafter. In the case of the smaller dose administered intravenously, which usually causes a more rapid and more intensive

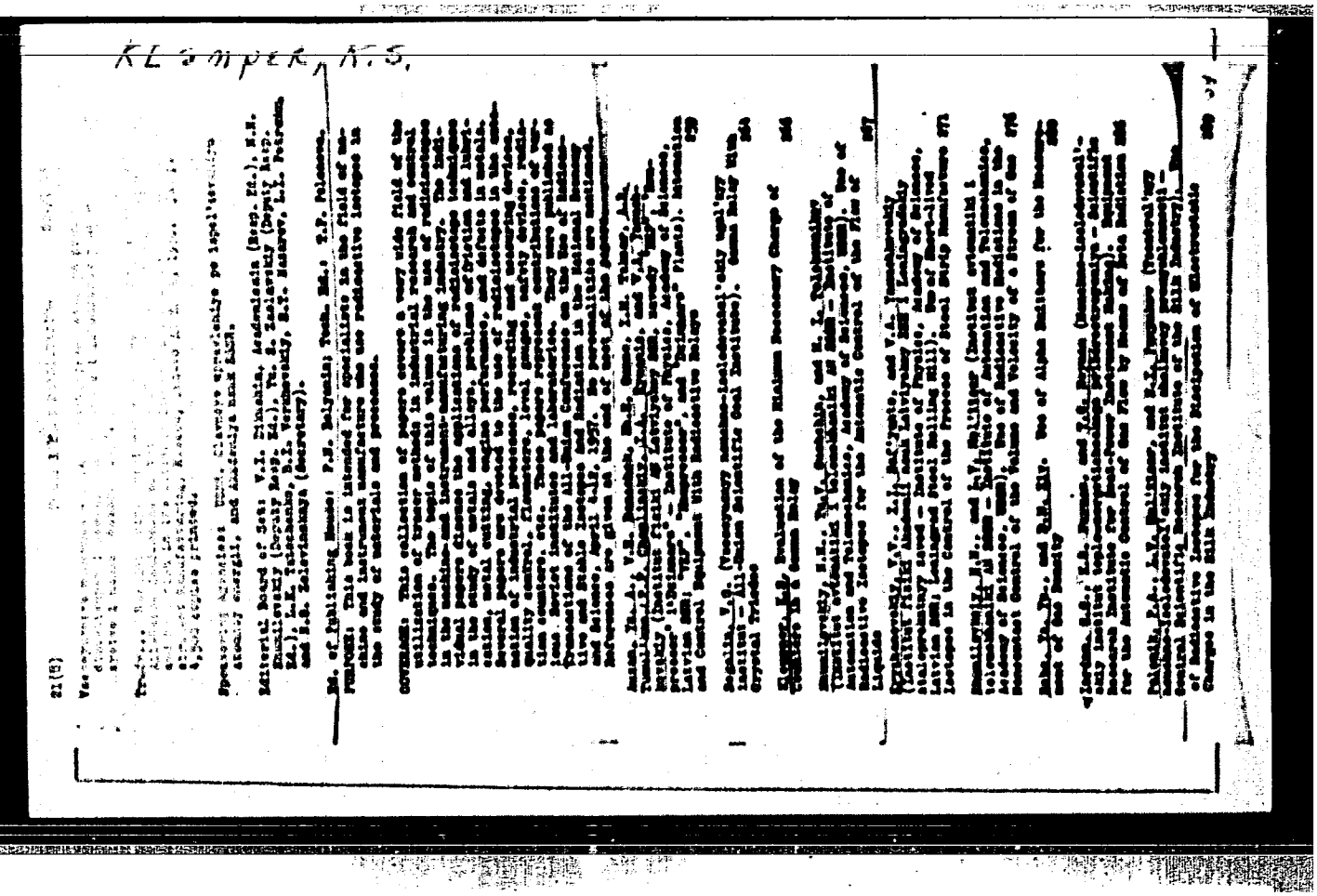
Card 1/2 UDC: 612.017.014.454:613.644

L 28891-66
ACC NR: AP6018228

immunological reaction than a large dose given subcutaneously, the inhibiting effect of noise was even more evident, suppressing antibody formation after the first inoculation as well as preventing antibody formation on revaccination. Orig. art. has: 3 figures. [LS]

SUB CODE: 06, 15/ SUBM DATE: 05Jun65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 5006

Card 2/2



KLEMPERER, A.S.

KLEMPERA, J.

"Tracing Old Popular Ballads in the Tachlovice Area", P. 37. (CESKY LID, Vol. 40, No. 1, Feb. 1953, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

KLEMPERT, R.S.

Fourth Sumy Province Scientific and Practical Conference of Stomatologists and Dentists. Stomatologiia 41 no.5:109 S-O '62. (MIRA 16:4)

(SUMY PROVINCE—STOMATOLOGY) (SUMY PROVINCE—DENTISTRY)

BOGDASHEVSKIY, Viktor Ivanovich; DONICH, Konstantin Konstantinovich [deceased]; IOFFE, Veniamin Isaakovich; KLEMPERT, Yakov Emmanuilovich; KOLYANKOVSKIY, Viktor Polikarpovich; KRAINSKIY, Abram Isayevich; POLOTSKIY, Solomon Gertsovich; SVIRSKIY, Solomon Vladimirovich; ANDREYEV, P.A., retsenzent; IVANOV, N.S., retsenzent [deceased]; POMAZKOV, N.S., retsenzent; KRAINSKIY, A.I., nauchn. red.; SHAKHNOVA, V.M., red.; KOROVENKO, Yu.N., tekhn. red.

[Accounting in shipbuilding and machinery manufacturing enterprises] Uchet na sudostroitel'nykh i mashinostroitel'nykh predpriiatiiakh. [By] V.I.Bogdashevskii i dr. Leningrad, Sudpromgiz, 1963. 502 p. (MIRA 17:3)

MARTYNOV, I.A., [illegible]; GERYHINO, A.Z., kand. tekhn. nauk; KLEMPERT, Ye.D.
[illegible]

Optimum grooving of friction rolls of the mechanism for turning and feeding the pipe on an automatic mill. Stal' 25 no.12: 1114-1116 D '65. (MIRA 18:12)

KLEPFNER, J.

Different courses of tuberculosis of the small and large intestine treated with streptomycin and PAS. Cas.lek.cesk. 90 no.6: 168-171 9 Feb 51. (CLML 20:6)

1. Of the Lung Sanatorium UNP in Jablonkove (Head--B.Urbancik,M.D.)

KLEMPTNER, Jan., MUDr

Experience with diagnosis of pulmonary carcinoma based on 43 cases. Cas. lek. cesk. 93 no.35:949-954 3 Sept 54.

1. Z plicniho oddeleni KUNZ K.Vary - Nejdek.
(LUNGS, neoplasms, diag.)

KLEMPFNER, JAN

KLEMPFNER, Jan.

Sinobronchopneumopathy; relation between chronic inflammation of the paranasal simuses & chronic infections of the lower respiratory tract. Cas. lek. cesk. 96 no.26:813-819 28 June 57.

1. Plicni oddeleni KUNZ K. Vary-Nejdek, prednosta Dr. J. Klempfner.
(PARANASAL SINUSES, dis.
chronic inflamm., with chronic lung infect., causal relation (Cz))
(LUNG DISEASES, compl.
chronic inflamm. of paranasal simuses with chronic lung infect., causal relation (Cz))

DUBABA, Miroslav; KLEMPFNER, Jan

Problem of cooperation between otolaryngologist & pneumologist with special reference to stratigraphic examinations. Cesk. otolar. 7 no.4: 200-205 Aug 58.

1. ORL oddeleni KUNZ Karlovy Vary, prednosta MUDr. M. Dubaba Plicni oddeleni KUNZ Karlovy Vary, prednosta MUDr. J. Klempfner.

(MACILLARY SINUS, dis.
sinusitis, diag., stratigraphy, cooperation between otolaryngologist & pneumologist (Cz))

(SINUSITIS, diag.
stratigraphy in maxillary sinusitis, cooperation between otolaryngologist & pneumologist (Cz))

KLEMPFNER, Jan

Contribution to the physiology of the paranasal sinuses. Cesk otolar. 9 no.1:33-36 F '60.

1. Plicni oddeleni KUNZ, K. Vary-Nejdek, prednosta MUDr. J. Klempfner.
(PARANASAL SINUSES physiol.)

KLEMPFNER,J.

Simple, safe and rapid method of anesthesia in bronchography. Pernasal directed anesthesia. Cesk. rentgen. 18 no.2:111-115 Mr'64.

1. Rentgenologicke oddeleni CS, statnich lazni v Karlovych Varech; vedouci: MUDr. L.Svab.

Klempner, K.S.

130-3-3/21

AUTHORS: Vasyutin, F.P., Dement'yev, V.M., Klempner, K.S., and Machkovskiy, V.A.

TITLE: Signalling Device for the Limiting Level of Water in a Scrubber. (Signalizator predel'nogo urovnya vody v skrubbere).

PERIODICAL: Metallurg, 1958, No.3, pp.6-7 (USSR).

ABSTRACT: The authors briefly discuss methods of fixing the level of water in the high-pressure scrubber beyond the dry dust catchers of blast furnaces. They give two examples, a self-flushing type (Fig.1) and one with a float-operated valve (Fig.2). Both systems are unreliable because of pressure variations (especially when furnaces are operating at high top pressure) and the latter also because of corrosion and scaling. The authors go on to give a brief account of a radiation method for indicating water level in the scrubber, in which a radioactive source (cobalt) and a detector are so arranged on opposite sides of a float chamber that when the water reaches the appropriate level it cuts off an appreciable proportion of the radiation to the detector; a system of relays then causes an alarm to operate. The radio-active source is contained in a special container which

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139-3-3/21

Signalling device for the limiting level of water in a scrubber.

can easily be replaced. The system is recommended for determining dust levels in dust bags and for incorporation in an automatic two-position water-level regulator for scrubbers.
There are 4 figures.

ASSOCIATION: Makeyevka Metallurgical Works
(Makeyevskiy Metallurgicheskiy Zavod).

AVAILABLE: Library of Congress.

Card 2/2

VASIL'YEV, A.G.; KLEMPNER, K.S. (Khar'kov)

Analysing reliability of automatic gamma-ray relays. Avtom.i telem. 20 no.2:220-225 F '59. (MIRA 12:3)
(Automatic control) (Nuclear counters)

SOV/32-25-5-42/56

8(2)

AUTHORS: Klempner, K. S., Machkovskiy, V. A., Shlyakhovetskiy, Ye. S.

TITLE: Simplified Construction of a Radioactive Relay (Uproshchennaya konstruktsiya radioaktivnogo rele)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 5, pp 623-624 (USSR)

ABSTRACT: In this case the voltage stabilization of the current supply of the counter of radioactive donors with relay effect, operating with stronger absorption ($\mu d > 4$) and having a time constant of the integrating chain of the magnitude of one second was excluded and thus the construction of the relay simplified. The relay construction was made with a thyratron cell of the type TsNIIChM with a reaction threshold of the magnitude of 10 pulses/sec. As may be seen from the scheme of the apparatus (Fig), a rectifier (connected by way of selenium poles) and the thyratron cell are present. The anode connection of the thyratron contains an electromagnetic relay of the type MKU-48. In the case of the rectifier the high-tension can be earthed on the positive as well as the negative pole so that the tube can be connected in any way desired. A variant of the scheme without transformer has also been worked out.

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SOV/32-25-5-42/56

Simplified Construction of a Radioactive Relay

There are 1 figure and 2 references, 1 of which is Soviet.

ASSOCIATION: Makeyevskiy metallurgicheskiy zavod im. S. M. Kirova
(Makeyevka Metallurgical Plant imeni S. M. Kirov)

Card 2/2

87960

S/115/60/000/012/014/018
B019/B056

9.6150

AUTHORS: Klempner, K. S. and Vasil'yev, A. G.

TITLE: Dynamic Error in Recording the Position of an Object by Means of a Radiometric Relay

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 12, pp. 46-47

TEXT: The dynamic error in recording the position of an object depends on the response of the radiometric relay, which, in turn, depends on the rate of transients in the RC generator, on any dimension of the sensitive surface of the detector, on the geometrical position of the source and the detector, and on the velocity of the object. The authors study the dynamic error of a level gauge which operates with a nuclear radiation source. The extension of the sensitive surface of the detector in the direction of motion of the object is assumed to be 1, the velocity $v \neq 0$, and x is the current coordinate of the liquid level. A function U(x) for the potential at the integrator output of the relay is obtained. By studying this relation, the authors see that with a low velocity of the object, the potential at the integrator output is a linear function of x. The dynamic

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Dynamic Error in Recording the Position of an Object by Means of a Radiometric Relay

S/115/60/000/012/0[illegible]/018
B019/B056

error x_o is then $x_o < 1$. With increasing velocity, $x_o > 1$ until at very high velocities x_o becomes infinite. The following relations are obtained for the error:

$$x_o = vRC \ln \frac{vRC}{1} \cdot \frac{U_1}{U_1 - U_{0-1}} (\exp(1/vRC) - 1) \quad \text{for } x_o > 1 \text{, and}$$

$$x_o = \left(\frac{U_{0-1}^2 RCv1}{U_1}\right)^{1/2} \quad \text{for } x_o \leq 1.$$

R and C form the integrator; U_{0-1} is the potential at which the relay goes over from state 0 into state 1. From a study of these relations the authors conclude that the maximum dynamic error occurs when an integrator with a low time constant is used. With a decrease of the time constant of the integrator, the statistical error increases, which can only be equalized by increasing the emittor activity. There are 2 figures and 3 references: 2 Soviet and 1 US.

Card 2/2

16.9500,21.7100

77830
SOV/103-21-2-10/14

AUTHORS: Vasil'ev, A. G., Zhitomirskiy, I. S., Klempner, K. S. (Kharkov)

TITLE: Reliability Criteria of Automatic Relay Arrangements With Radioactive Emitters

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol 21, Nr 2, pp 245-253 (USSR)

ABSTRACT: The study determines the probabilities that the relay will maintain a given state, and an average number of "false" operations at a unit time as function of the system parameters. On the basis of previously published papers, the authors refer to the characteristic function of distribution of the random magnitude and the cumulatives of distribution. Applying these equations to devices in which the RC cell serves as an integrator, in order to determine the density of probability and the function of distribution, leads to very difficult calculations. Two expansions in a series for the density of probability p(x) and for the function of

Card 1/8

distribution F(x), both to be determined, are considered. The first and second expansion in a series, respectively, may be used for greater and smaller magnitudes of ν where

$$\nu = nRC, \qquad (5)$$

Here, n is the speed of calculation and RC is a resistance capacitance cell. Assuming that speed of calculation is constant and that the time when the system is in a steady-state condition is sufficiently long, the investigation of reliability of the system is reduced to an investigation of reliability of the stationary state. Thus, the following equations for density of probability p(x) and for function of distribution F(x) are derived:

$$p(x) = \frac{0.5}{\sqrt{\nu}}\Phi_1\left(\frac{z}{\sqrt{2}}\right) - \frac{0.0278}{\nu}\Phi_4\left(\frac{z}{\sqrt{2}}\right) + \frac{0.00620}{\nu^{3/2}}\Phi_6\left(\frac{z}{\sqrt{2}}\right) + \frac{0.00617}{\nu^{3/2}}\Phi_7\left(\frac{z}{\sqrt{2}}\right) - \frac{0.000434}{\nu^2}\Phi_8\left(\frac{z}{\sqrt{2}}\right) - \frac{0.87\cdot10^{-4}}{\nu^2}\Phi_9\left(\frac{z}{\sqrt{2}}\right) - \frac{3.58\cdot10^{-5}}{\nu^2}\Phi_{10}\left(\frac{z}{\sqrt{2}}\right) + \ldots. \quad (9)$$

$$P(x) = 0.5 - \Phi(z) - \frac{0.0278}{\sqrt{\nu}}\Phi_3\left(\frac{z}{\sqrt{2}}\right) + \frac{0.00622}{\nu}\Phi_4\left(\frac{z}{\sqrt{2}}\right) + \frac{0.000773}{\nu}\Phi_6\left(\frac{z}{\sqrt{2}}\right) - \frac{0.000632}{\nu^{3/2}}\Phi_8\left(\frac{z}{\sqrt{2}}\right) - \frac{1.15\cdot10^{-4}}{\nu^{3/2}}\Phi_7\left(\frac{z}{\sqrt{2}}\right) - \frac{4.20\cdot10^{-5}}{\nu^{3/2}}\Phi_9\left(\frac{z}{\sqrt{2}}\right) + \ldots. \quad (10)$$

Where it is

$$\Phi(z) = \frac{1}{\sqrt{2\pi}}\int_0^z e^{-\frac{V^2}{2}}dV \quad (11)$$

Here Eq. 11 is the fixed Laplace function, $\Phi_n\left(\frac{z}{\sqrt{2}}\right)$ are the derivatives of the integral of probability, and z is the quotient of standard deviation. The second expansion in a series for smaller ν and greater z is similar to the method worked out by Maslov and

Card 3/3

Povzner in the study, "On Infinitesimal Operators of One Class of Markov Processes." Theory of Probability and Its Application. (Ob infinitezimalnykh operatorakh odnogo klassa markovskikh protsessov. Teoriya veroyatnostey i eye primeneniya), Vol 3, Nr 1 (1958). When the function of distribution is found by one of the above methods, the average time of the stay of the relay in a given state and the average number of "false" operations at a unit time may be determined easily. For a noninertial relay these problems are reduced to determining the number of intersections of the actual values of potential with the potential V_n at which a change in the relay state takes place. The downward ($S \downarrow$) and upward intersections ($S \uparrow$), respectively, correspond to states 1 $|\bar{V}| > |V_n|$ and 2 $|\bar{V}| < |V_n|$. The following equations for $S\downarrow$ and $S\uparrow$ are derived:

$$S^1 = n_0 p(x). \tag{29}$$

where n_0 is the threshold operation of the relay and

$$S^2 = np(x). \tag{30}$$

The average duration of overshooting for state 1 is given in the form:

$$T^1 = \frac{F(x)}{n_0 p(x)}, \tag{31}$$

and for state 2 in the form:

$$T^2 = \frac{1 - F(x)}{np(x)}. \tag{32}$$

For condition

$$\frac{1}{S^1} > T^1 \text{ or } \frac{1}{S^2} > T^2 \tag{33}$$

the distribution of the number of "false" operations is similar to the Poisson's distribution. Making use of the above equations, the curves in Fig. 1 are obtained, showing the probability that the potential is in "false" state, as function of n_0RC.

Reliability Criteria of Automatic Relay Arrangements With Radioactive Emitters

77830
SOV/103-21-2-10/14

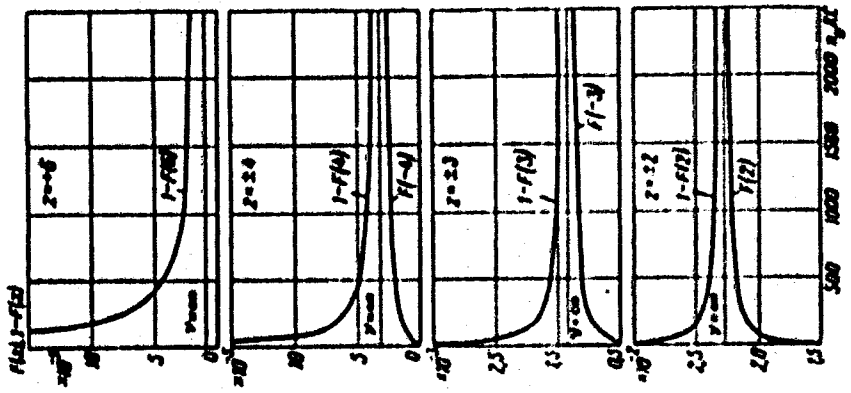

Fig. 1. Values of probability of potential being in "false" state.

The number of "false" intersections of the potential at a unit time as function of n_o, for various values of z and RC is shown in Fig. 2 (where n_o is threshold operation of the relay).

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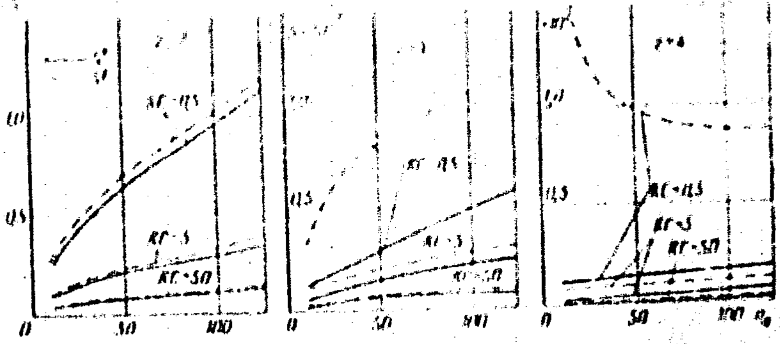

Fig. 2. Values of the average number of "false" intersections of potential in a unit time.

The average value of time when potential is in "false" state conditions for various z, n_0, and RC is shown in Fig. 3. On the basis of results obtained, the relative time when the contacts of relay are in the "false" state and the number of "false" contact switchings may be determined for an actual relay of known characteristics. The assistance of L. K. Tatochenko

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is acknowledged. There are 3 figures and 6 Soviet references.

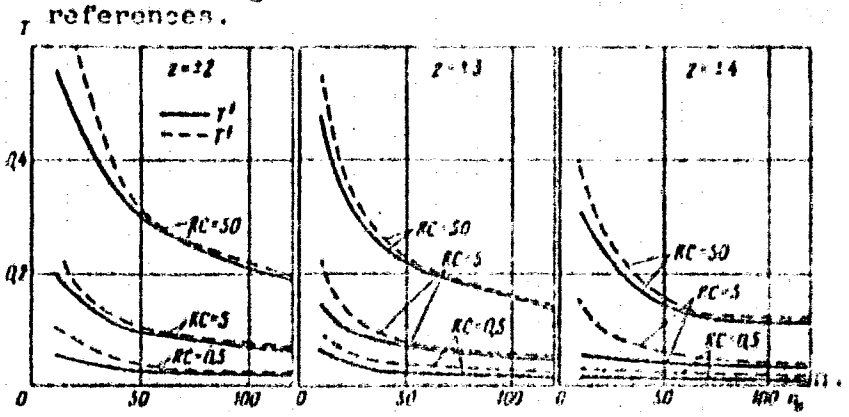

Fig. 3. Average values of "false" intersection.

SUBMITTED: June 17, 1959

Card 8/8

KLEMPNER, K. S., ZHITOMIRSKIY, I. S., and VASIL'YEV, A. G.

"Statistical Reliability of Relay Devices in Steady State and Transient Processes"

paper presented at the All-Union Seminar on the Application of Radioactive Isotopes in Measurements and Instrument Building, Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

VASIL'YEV, A.G.; KLEMPNER, K.S.; TATOCHENKO, L.K., doktor tekhn. nauk, retsenzent; VERKHOVSKIY, B.I., inzh., red.; KURATSEV, L.Ye., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Relay devices with nuclear radiation sources] Releinye ustroistva s istochnikami iadernogo izlucheniia. Moskva, Mashgiz, 1963. 166 p. (MIRA 17:3)

VASIL'YEV, A.G.; ZHITOMIRSKIY, I.S.; KLEMPNER, L.S.

Classificiation of relay devices with nuclear radiation sources. Izm. tekh. no.7:53-56 Jl '63. (MIRA 16:8)

(Electric relays) (Nuclear instruments)

KLEMPNER, K.S.; CHEREDNICHENKO, I.M.

Stand for testing radioisotope density relays. Izm.tekh. no.11: 48-50 N '63. (MIRA 16:12)

ACCESSION NR: AR4035550 S /0271/64/000/003/A006/A006

SOURCE: Ref. zh. Avtomat., telemekh. i vy*chisl. tekhn. Sv. t., Abs. 3A45

AUTHOR: Zhitomirskiy, I. S.; Vasil'yev, A. G.; Klempner, K. S.

TITLE: Statistical reliability of relay-type devices under steady-state and transient conditions

CITED SOURCE: Sb. Radioizotopn. metody* avtomat. kontrolya. T. 1. Frunze, AN KirgSSR, 1963, 31-41

TOPIC TAGS: relay reliability, contactless switch, register, statistical reliability

TRANSLATION: Reliability of operation is considered of relay-type devices (registers and contactless switches) under fluctuating-error conditions caused by the random nature of radioactive decay. One illustration. Bibliography: 4 titles.

DATE ACQ: 17Apr64 SUB CODE: IE ENCL: 00

Card 1/1

KLEMPNER, K.S.; CHEREDNICHENKO, I.M.; SHEVILOVSKIY, N.B.

Calculating radioisotope devices taking into consideration instrument errors and statistical characteristics of the input signal. Avtometriia no.2:84-91 '65. (MIRA 18:9)

L 11576-66 EWT(1)/EWA(h) TG

ACC NR: AT5028941 SOURCE CODE: UR/0000/63/000/000/0031/0041

AUTHOR: Zhitomirskiy, I. S.; Vasil'yev, A. G.; Klempner, K. S. 27

ORG: none

TITLE: Statistical reliability of relay systems in stationary states and transient processes

SOURCE: Vsesoyuznyy seminar po primeneniyu radioaktivnykh izotopov v izmeritel'noy tekhnike i priborostroyenii. Frunze, 1961. Radioizotopnyye metody avtomaticheskogo kontrolya (Radioisotope methods of automatic control); trudy rasshirennogo soveshchaniya, v. 1. Frunze, Izd-vo AN KirgSSR, 1963, 31-41

TOPIC TAGS: reliability theory, electric relay, radioactive source, RADIOACTIVE DECAY

ABSTRACT: The paper deals with the reliability of a relay with respect to fluctuational errors caused by the random nature of radioactive decay. It is shown that the optimal measure of reliability for the operation of the instrument in a transient process is the probability of one and only one commutation of the relay during the interval of increase and decrease of the mathematical expectation of the control

Card 1/2

L 14576-66

ACC NR: AT5028941

signal. The optimal measure of reliability for contactless breakers is the probability of at least one commutation of the relay during the interval of increase and decrease of the mathematical expectation of the control signal. In addition to the earlier criteria of reliability of stationary regimes of relays, a new reliability criterion is introduced: the probability of the absence of relay commutations during a given time of operation in the stationary state. A numerical method of calculating reliability criteria is given. The use of this method presupposes the use of high speed computers. Orig. art. has: 1 figure, 31 formulas.

SUB CODE: 09,14/ SUBM DATE: 21Mar63/ ORIG REF: 002/ OTH REF: 000

Card 2/2

L 26676-66 EWT(m) DIAAP

ACC NR: AP6017129 SOURCE CODE: UR/0410/65/000/002/0084/0091

AUTHOR: Klemmer, K. S. (Donetsk); Cherednichenko, I. M. (Frunze); Shumilovskiy, N. N. (Frunze)

ORG: none

TITLE: Design of radioactive isotope instruments in consideration of apparatus errors and statistical characteristics of the input signal

SOURCE: Avtometriya, no. 2, 1965, 84-91

TOPIC TAGS: electric measurement, radioisotope, signal to noise ratio

ABSTRACT: Problems of accuracy in measurements with the aid of radioactive isotope instruments are discussed, in consideration of the statistical characteristics of the input signal and apparatus errors of all types. An accounting is made of apparatus errors, dependent and independent of the intensity of the current being measured. A general expression is developed which connects the error in measurement Δx, sensitivity of method of measurement q and signal to noise ratio z. Conditions of measurement are found at which the maximal signal to noise ratio is to be obtained. It is shown that identical measurement accuracy may be attained by instruments with different apparatus errors by changing the sensitivity of the method of measurement. Orig. art. has: 2 tables, 2 figures, and 25 formulas. [JPRS]

SUB CODE: 14, 09, 18 / SUBM DATE: 02Nov64 / ORIG REF: 006 / OTH REF: 001

Card 1/1 BLG UDC: 681.2.088.001.12 : 621.384.2

AUTHOR: Klempner, S.S., Manager SOV/111-58-12-30/38

TITLE: Work Efficiency at the Karelian Radio Center (Ratsionalizatorskaya rabota na Karel'skom radiotsentre)

PERIODICAL: Vestnik svyazi, 1958, Nr 12, p 32-33 (USSR)

ABSTRACT: The author tells of the work efficiency program conducted at the Karelian radio center and mentions among others the names of the following engineers: Norveyn, Lougus, Abramova, Kundyshev, Radikaynen. Competitions for the best work simplification suggestion are being held among the employees.

ASSOCIATION: Karel'skiy respublikanskiy radiotsentr (Karelian Republic Radio Center)

Card 1/1

KLEMPORSKAYA, N.N.; RAYEVA, N.V.

Effect of multiple injections of distilled water on the course of acute radiation sickness in dogs. Med.rad. 5 no.2:26-30 F '60. (MIRA 13:12)

(RADIATION SICKNESS) (WATER)

KLEMPARSKAYA, NATALYA NIKIFOROVNA

Problems of Infection, Immunity and Allergy in Acute Radiation Diseases by N.N. Klemparskaya (and others) New York, Pergamon Press, 1961.
165 p. illus. 26 cm.
Translated from the original Russian title: Voprosy Infektsii, Immuniteta I Allergii pri Ostroy Luchevoy Bolezni.

KLEMUSHIN, F.M., inzh.

Calculating the wear resistance of parts for marine internal combustion engines. Sudostroenie 29 no.7:56-59 Jl '63. (MIRA 16:9)

(Marine engines) (Internal combustion engines)

KLEMYSHEV, P.

War - Economic Aspects

Finances of capitalist states as instruments in preparing a new war of aggression.
P. Klemyshev. Sov. fin. 13, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, April 1952 UNCLASSIFIED

KLEMYSHEV, Petr Aleksandrovich

[Economic aspects and planning of repairing of agricultural machinery and tractors] Ekonomika i planirovanie remonta mashino-traktornogo parka. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 148 p. (MIRA 13:12)
(Agricultural machinery--Maintenance and repair)
(Tractors--Maintenance and repair)

KLEMYSHEV, P.A.; KOZLOV, Ye.G.; BELOZERTSEV, A.G.; VOLODARSKIY, D.Ya.; GRACHEV, V.A.; KRUCHININ, M.I.; FILIMONOV, K.N.; KHLUDENEV, A.I.; ANDREYEV, P.P.; NOVOZHILOV, V.F.; GERSHANOV, S.V.; PYLAYEVA, A.P., red.; BALLOD, A.I., tekhn. red.; PEVZNER, V.I., tekhn. red.

[Economic efficiency of mechanization in agriculture] Ekonomicheskaia effektivnost' mekhanizatsii sel'skogo khoziaistva. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov, 1961. 230 p. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva(for all except Pylayeva, Ballod, Pevzner).
(Farm mechanization)

ACCESSION NR: AP4018365 S/0120/64/000/001/0057/0060

AUTHOR: Broder, D. L.; Kham'yanov, L. P.; Al'nikov, V. S.; Klemy*shev, P. S.

TITLE: Three-rotor mechanical neutron-beam chopper

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 57-60

TOPIC TAGS: neutron beam chopper, transit time method, gamma ray spectrum, gamma ray spectrum measurement, three rotor neutron beam chopper, slow neutron spectroscopy

ABSTRACT: A three-rotor mechanical neutron-beam chopper is described in which the phasing and synchronism of rotors rotation are ensured by a rigid mechanical precision gearing. The chopper is used in the First Atomic Electric-Power Station for studying radiative-capture sections and neutron-capture gamma-ray spectra by the transit-time method. Each rotor is driven by a

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ACCESSION NR: AP4018365

separate ESh-24/1 motor, so that the gears transmit no power; they only ensure synchronism. Phase relations are claimed to be constant within 5' for a long-life service. The max rotor speed is 12,000 rpm, which corresponds to a 7-microsec neutron pulse. The resolution is claimed to be as high as 0.5 or one microsec/m. A few examples of chopper use are cited. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 14Feb63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: NS NO REF SOV: 003 OTHER: 003

Card 2/2

KLEN, B.

SDELOVACI TECHNIKA (Communication Engineering, Czechoslovakia)
Vol 2, No. 9, September, 1954

New Czechoslovak high power thyratrons.

Design and electrical properties of a new series of mercury-filled thyratrons, designed by TESLA chiefly for use as rectifyers in high-power d.c. supplies. The characteristics of an average thyratron are: heater voltage 5V, heater current 32A, max. rectified voltage 15 kV, max. rectified current 16A, inverse voltage 20kV, thyratron voltage drop 15V, max. diameter 150 mm, overall length 530 mm, weight about 2 kg. It is claimed that the thyratrons are superior to any existing Western or Soviet product. 269

By B. Klen.....

KLEN, B.

"Tesla vacuum condensers." p. 199

SDELOVACI TECHNIKA. Praha, Czechoslovakia, Vol. 3, No. 7, July, 1955

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959
Unclas

KLEN, B.

Premysl Mares; obituary. Slaboproudy obzor 23 no.2:125-126 F '62.